

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A liquid dispensing and recirculating system comprising:
 - a container having a mouth;
 - a cap for coupling with the mouth;
 - a connector for coupling with the cap, the connector further comprising:
 - a connector head; and
 - a probe extending from the connector head and insertable through the cap and into the mouth, the probe having a flow passage therein which terminates near a probe tip;
 - a pump coupled with the probe and with the flow passage for pumping fluid in the container through the probe and the flow passage; and
 - a fluid return channel extending longitudinally along and formed on an exterior surface of the probe, wherein the system is adapted to return recirculated fluid to the fluid in the container substantially without turbulence, and wherein the fluid return channel is adapted to permit air in the recirculated fluid to be released from the fluid return channel before reaching the fluid in the container to prevent injection of air into the fluid in the container.
2. (Previously Presented) The liquid dispensing and recirculating system of claim 1, wherein the fluid return channel is formed along the exterior of the probe from an area proximate to the connector head to an area proximate to the probe tip.
3. (Withdrawn) The liquid dispensing and recirculating system of claim 2, wherein the fluid return channel has a first depth at the connector head greater than a second depth at about the probe tip, the first depth uniformly transitioning to the second depth along the channel.

4. (Previously Presented) The liquid dispensing and recirculating system of claim 2, wherein the fluid return channel has a uniform depth.
5. (Previously Presented) The liquid dispensing and recirculating system of claim 2, wherein the fluid return channel extends along the probe substantially parallel with the flow passage.
6. (Previously Presented) The liquid dispensing and recirculating system of claim 1, wherein the fluid return channel includes a bore formed at the area proximate to the connector head for delivering the recirculated fluid to the fluid return channel.
7. (Previously Presented) The liquid dispensing and recirculating system of claim 6, wherein the bore is sized such that the recirculated fluid remains within the fluid return channel as it is returned to the container.
8. (Original) The liquid dispensing and recirculating system of claim 1, wherein the cap includes a first key element and the connector includes a second key element configured to mate with the first key element.
9. (Previously Presented) The liquid dispensing and recirculating system of claim 8, further comprising:
 - a sensor for sending when the first and second key elements are mated and for sensing when the first and second key elements are not mated.
10. (Previously Presented) The liquid dispensing and recirculating system of claim 9, wherein the sensor comprises a detector mounted on the connector and a detector affecting element mounted on the cap, the detector mounted on the connector having two states, one state when the first and second key codes are mated and the cap and connector are coupled in a predetermined orientation and a second state when the first and second key codes are not mated and the cap and connector are not coupled in the predetermined orientation.

11. (Previously Presented) The liquid dispensing and recirculating system of claim 9, wherein the sensor comprises a detector mounted on the cap and a detector affecting element mounted on the connector, the detector mounted on the cap having two states, one state when the first and second key codes are mated and the cap and connector are coupled in a predetermined orientation and a second state when the first and second key codes are not mated and the cap and connector are not coupled in the predetermined orientation.

12. (Previously Presented) The liquid dispensing and recirculating system of claim 9, further comprising:

a controller coupled with the sensor and the pump such that the controller enables the pump when the sensor senses that the first and second key elements are mated and disables the pump when the sensor senses that the first and second key elements are not mated.

13. (Original) The liquid dispensing and recirculating system of claim 1, further comprising a pressure assist port that is coupled to an external pressure source for introducing pressurized gas into the container to facilitate flow of the fluid from the container.

14. (Currently Amended) A probe for dispensing liquid from and returning liquid to a container comprising:

a flow passage extending through the probe from a first end of the probe to a second end of the probe;

a fluid return port; and

a fluid return channel in fluid communication with the fluid return port via a bore, the fluid return channel extending longitudinally along and formed on an exterior surface of the probe substantially parallel to the flow passage from the bore to about the second end of the probe, wherein the fluid return channel is adapted to ~~return the liquid to liquid in the container substantially without turbulence~~ and to permit air in the returned liquid to be released from the fluid return channel before reaching the liquid in the container to prevent injection of air into the liquid in the container, and wherein the liquid is returned through the fluid return channel to the liquid in the container substantially without turbulence.

15. (Withdrawn) The probe of claim 14, wherein the fluid return channel has a first depth at the bore greater than a second depth at about the second end of the probe, the first depth uniformly transitioning to the second depth along the fluid return channel.

16. (Original) The probe of claim 14, wherein the fluid return channel has a uniform depth.

17. (Previously Presented) A method of dispensing and recirculating liquids comprising:
providing a container having a mouth which communicates with an interior of the container;
attaching a cap over the mouth;
coupling a connector to the cap, wherein the connector includes a probe defining a fluid passage terminating within the interior of the container at a tip of the probe and defining a fluid return channel extending longitudinally along and formed on an exterior surface of the probe;
dispensing fluid from the container through the fluid passage; and
refilling fluid into the container substantially without turbulence through the fluid return channel, wherein air in the refilled fluid is released from the fluid return channel before reaching the fluid in the container to prevent injection of air into the fluid in the container.

18. (Original) The method of claim 17, wherein the steps of dispensing fluid from the container and refilling fluid into the container are performed simultaneously.

19. (Original) The method of claim 17, wherein the step of refilling fluid into the container comprises:
recirculating the dispensed liquid back into the container through the fluid return channel.

20. (Previously Presented) The method of claim 17, wherein the fluid return channel is formed along the exterior of the probe from an area proximate to the connector head to an area proximate to the tip of the probe.

21. (Withdrawn) The method of claim 20, wherein the fluid return channel has a first depth at the connector head greater than a second depth at about the tip of the probe, the first depth uniformly transitioning to the second depth along the channel.
22. (Original) The method of claim 20, wherein the fluid return channel has a uniform depth.
23. (Original) The method of claim 20, wherein the fluid return channel is formed along the probe substantially parallel with the flow passage.
24. (Original) The method of claim 17, wherein the fluid return channel includes a bore formed at the area proximate to the connector head for delivering the fluid to the fluid channel.